

REMARKS

The Office Action has been received and carefully considered. The Office Action rejects claims 1 and 2 as allegedly being obvious under 35 U.S.C. § 103(a) over G.B. Patent No. 2,313,194 to Allen (“Allen”) in view of U.S. Patent No. 5,099,402 to Starniri (“Starniri”), rejects claims 3-8 and 12-14 under 35 U.S.C. § 103(a) over Allen in view of Starniri and further in view of U.S. Patent No. 6,116,748 to George (“George”), and rejects claims 9-11 under 35 U.S.C. § 103(a) over Allen in view of Starniri and further in view of George and U.S. Published Application No. 2002/0015024 to Westerman *et al.* (“Westerman”). Applicants respectfully traverse the rejections as follows.

I. Introduction

The present invention, as claimed, provides an illuminating surface that emits light in the presence of an object touching or in close proximity to the surface. The surface is made up of an array of sensors and an array of light sources, each sensor being associated with at least one light source so that, when any of the sensors detects the presence of the object, its associated light source or light sources are illuminated. In addition, *each sensor is not only connected to its own source or sources, but also to an adjacent light source associated with an adjacent sensor so that the adjacent light source is illuminated even though the sensor associated with that adjacent light source is not activated.* This causes the surface to emit light in an area that corresponds to the shape of, but is larger than, the object that is detected. Therefore, illumination from the surface caused by the presence of an objection will still be observable even though the light source or light sources associated with the sensors that detect the object may be blocked by the object itself. Thus, it is possible to ensure that the illumination is always observed even if the object blocks the light from the light sources associated with the sensors that are activated by the object.

II. Neither Allen Nor Starniri Disclose Sensors Connected To Both Associated And Adjacent Light Sources

Claim 1 recites “each of the sensors is connected to, in addition to its associated light source, at least one adjacent light source that is illuminated when the sensor detects the presence of an object, thereby causing an area of the surface to emit light that corresponds to and is larger than the shape of the object.” The cited references, alone or in combination, fail to disclose or suggest this feature.

Allen at most discloses, as shown at 6 of Fig. 2, an illuminated surface having an array of sensors. Notably different from the present invention as claimed, each of Allen's sensors is associated with one, and only one, lamp. Allen's lamp is illuminated when its associated sensor detects the presence of a hand or a finger near it. However, Allen fails to disclose "each of the sensors is connected to, in addition to its associated light source, at least one adjacent light source that is illuminated when the sensor detects the presence of an object, *thereby causing an area of the surface to emit light that corresponds to and is larger than the shape of the object.*"

As discussed above in Section I, the additional light source connected to each sensor allows the light to be apparent, even if the object blocks the primary light source associated with the sensor. Allen suffers from this precise defect, in that light emitted from Allen's device might be blocked by the very object that elicits the light.

Starniri also fails to disclose sensors connected to additional light sources. At most, Starniri discloses a system for lighting a hand rail. Starniri's system includes a number of sensors which, when detecting the presence of a person, illuminate light sources along the length of the hand rail. In this way, each sensor is associated with *all* the light sources. This is in strict contrast with the language of the present claims, which recite "causing an area of the surface to emit light that corresponds to and is larger than the shape of the object."

Accordingly, a combination of Allen and Starniri does not disclose all the features of claim 1 as amended. Applicants respectfully request that claim 1 and all claims dependent thereon be indicated as allowable for at least the reasons provided above.

III. The Rejections Over Allen In View Of Starniri And George Are Improper

Claims 3-8 and 12-14 stand rejected over Allen in view of Starniri and further in view of George. In addition to the reasons provided above with respect to claims 1 and 2, claims 3-8 and 12-14 are patentable over the cited references as discussed presently.

Claim 5 recites "the light source of the said at least one adjacent circuit is illuminated after a delay following the illumination of the light source of the said detecting circuit, *thereby giving the effect that the area of the surface that emits light in the presence of the object spreads.*" Claim 5 thus requires that some of the light sources are illuminated at different times. In sharp contrast,

Starniri's lights all switch on or off together, although the time delay between losing contact with the hand rail and the switching off of the lights can be adjustable. Starniri thus fails to disclose this limitation, at least because Starniri's lights are not illuminated at different times.

Claim 6 also requires the light sources to be switched off at different times. Claim 6 recites "the light source of the said at least one adjacent circuit ceases to be illuminated prior to the light source of the said detecting circuit, *thereby giving the effect that the area of the surface that emits light shrinks when the object is no longer touching or adjacent to the surface.*" This limitation is contrary to the teaching of Starniri, which only teaches that the time delay before switching off all the lights can be adjusted.

Claim 7 requires that each detecting circuit is energisable from a power source when its sensor detects the presence of an object touching or in close proximity to the surface. Applicants respectfully traverse the assertion made in the Office Action that George meets this limitation. In particular, George fails to disclose a sensor and so cannot disclose that "each detecting circuit is energisable from a power source when its *sensor* detects the presence of an object touching or in close proximity to the surface," as claimed.

Claim 8 requires that current from the detecting circuit leaks to an adjacent circuit, thereby energising the light source of the adjacent circuit. This claim must be considered in the context of claim 4, which requires independent powering of each circuit. In Starniri, there is a single circuit with a single power source and a single sensor. Starniri thus fails to disclose an "adjacent circuit" as claimed. Accordingly, Starniri fails to disclose that "current from the said detecting circuit leaks to at least one adjacent circuit, thereby energising the light source of the adjacent circuit."

Claim 13 requires that the illuminating surface is in the form of a floor or wall tile, that is to say a tile that, together with other similar tiles could make up a floor or wall. There is no disclosure of such a feature in Allen.

IV. The Rejections Over Allen In View Of Starniri, George And Westerman Are Improper

Claims 9-11 stand rejected over Allen in view of Starniri, George and Westerman. In addition to the reasons provided above with respect to claims 1-4, claims 9-11 are patentable over the cited references as discussed presently.

Westerman at most discloses a touch sensitive screen that includes sensors. The passage referred to in the Office Action fails to disclose a light source, as required by claim 9. Thus, the only similarity between claim 9 and the present application is that there are sensors and there are transistors. Westerman accordingly fails to disclose a circuit that is such that a light source is illuminated when a transistor is conductive, as required by claim 9. Accordingly, claims 9-11 are patentable over the cited references.

V. The Cited References May Not Properly Be Combined

The cited references are of such disparate fields of endeavor that one of ordinary skill in the art would not be motivated to combine their features. Allen is directed to amusement games. Starniri relates to a hand rail that provides illumination, and George provides a theatre lighting system. Westerman describes a pressure sensitive panel for use in data inputting. Clearly, these fields are so unrelated as to fall within different arts. Accordingly, for these references, there can be no one “skilled in the *art*,” at least because these references embrace *multiple arts*.

To support a proper rejection under 35 U.S.C. § 103, the reference must be in the same field of endeavor as Applicants’ claimed invention. The MPEP states, “TO RELY ON A REFERENCE UNDER 35 U.S.C. 103, IT MUST BE ANALOGOUS ART.” MPEP § 2141.01(a). Quoting *In re Oetiker*, 977 F.2d 1443, 1446, 24 USPQ2d 1443, 1445 (Fed. Cir. 1992), the MPEP further states:

In order to rely on a reference as a basis for rejection of an applicant’s invention, the reference must either be in the field of applicant's endeavor or, if not, then be reasonably pertinent to the particular problem with which the inventor was concerned.

Id. Because Allen, Starniri, George and Westerman are neither in the same field of art as each other nor in the field of art of the claimed invention, they cannot properly be used as a basis for rejection.

In any case, none of the cited references provide an illuminating surface formed by an array of circuits, each including a sensor and a light source that is illuminated when the sensor is activated and where a light source of an adjacent circuit is also illuminated notwithstanding the fact that its sensor is not activated.

Applicants accordingly respectfully request that the rejections of claims 1-14 be withdrawn and the case passed to issue.

CONCLUSION

The present response is submitted together with a petition for a one-month extension of time. In the event that a variant exists between the amount tendered and that determined by the U.S. Patent and Trademark Office to enter this reply or to maintain the present application pending, please charge or credit such variance to the undersigned's Deposit Account No. 50-0206.

Applicants respectfully submit that this application is in condition for allowance and such disposition is earnestly solicited. If the Examiner believes that a telephone conference or interview would advance prosecution of this application in any manner, the undersigned stands ready to conduct such a conference at the convenience of the Examiner.

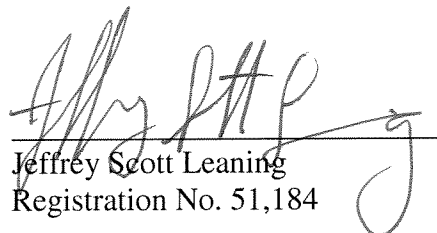
Respectfully submitted,

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